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Tongass
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Alaska Pulp Corporation Long-Term Timber Sale Contract

OCT 17, 1992

Southeast Chichagof Project Area
Final Environmental Impact Statement

Summary



Summary

Overview of Project



Bald eagle

In compliance with Federal and State regulations, the U.S. Forest Service has prepared this Final Environmental Impact Statement (Final EIS) on the effects of implementing the provisions of the Alaska Pulp Corporation Long-term Timber Sale Contract Number 12-11-010-1545 in the Southeast Chichagof Project Area. The National Environmental Policy Act (NEPA) requires that (1) a range of alternatives for achieving the project's goal be put forth, (2) an analysis of the environmental impacts of each alternative be conducted, (3) measures to mitigate adverse impacts be discussed, and finally, (4) the views of interested members of the public be sought and incorporated into the final plan. This Final EIS accomplishes the first three objectives. The process of achieving the final objective—seeking public interests and concerns—began with the issuance on May 2, 1990 of the Notice of Intent to proceed with the project and conduct the environmental analysis. Public scoping was conducted during May and June in 1990 to define the issues to be addressed in the Draft EIS. After this Draft EIS was published, a 45-day public comment period took place during which written and verbal comments on the alternatives were sought. During this same time, subsistence hearings, as required by the Alaska National Interest Lands Conservation Act of 1980, were held in Sitka, Tenakee Springs, Angoon, Haines, and Skagway to hear from those whose subsistence use of resources may be affected by proposed activities.

Purpose and Need for Action

The purpose of the Southeast Chichagof Project is to make timber available in accordance with the Alaska Pulp Corporation Long-term Timber Sale Contract and applicable laws and regulations such as the National Forest Management Act, National Environmental Policy Act (NEPA), and the Tongass Timber Reform Act (TTRA). The actions analyzed in this Final EIS are designed to implement direction contained in the Tongass Land Management Plan (TLMP). The environmental effects considered in this analysis include the effects of timber harvest and road construction on other resources. Opportunities for enhancement of fish and wildlife habitat and recreational opportunities associated with each alternative have also been identified.

Based on the environmental analysis, the Responsible Official (Gary A. Morrison, Forest Supervisor) will decide whether and how to make timber available from the Southeast Chichagof Project Area to meet contractual timber commitments. His decisions will include:

- The volume to make available under the contract in this area in one or more timber offerings;
- The location and design of timber harvest units;
- The location and design of local road systems;
- The location and design of log transfer facilities (LTFs);

- Necessary standards and guidelines, mitigation measures, monitoring measures and enhancement opportunities for resources other than timber; and
- If there is a significant restriction, and if so, its significance on subsistence use.

Affected Area

The project area is located at the southeast end of Chichagof Island and includes the watersheds of Sitkoh Bay, False Island, Basket Bay, Corner Bay, Kadashan Bay, Trap Bay, Crab Bay, Saltery Bay, Inbetween, Seal Bay, Long Bay, Little Basket Bay, White Rock, Sitkoh Lake, Board Island, and Fog Creek. It is bordered on the north by Tenakee Inlet, on the east by Chathan Strait, and on the south by Peril Strait (Figure S-1 Vicinity/Contract Area Map). The Project Area encompasses the following Management Areas (MAs) and Value Comparison Units (VCUs) described in the TLMP: MAs C29, C33, C34, C36, C37, and C37a; VCUs 227 to 247 (Figure S-2).

Availability of Documents

Documents upon which this Final EIS was based, as well as files and planning records which are incorporated by reference into the Final EIS, are available for review during regular business hours at the U.S. Forest Service, Tongass National Forest, Chatham Area, 204 Siginaka Way, Sitka, Alaska. A limited number of the Final EIS are available on request.

Background

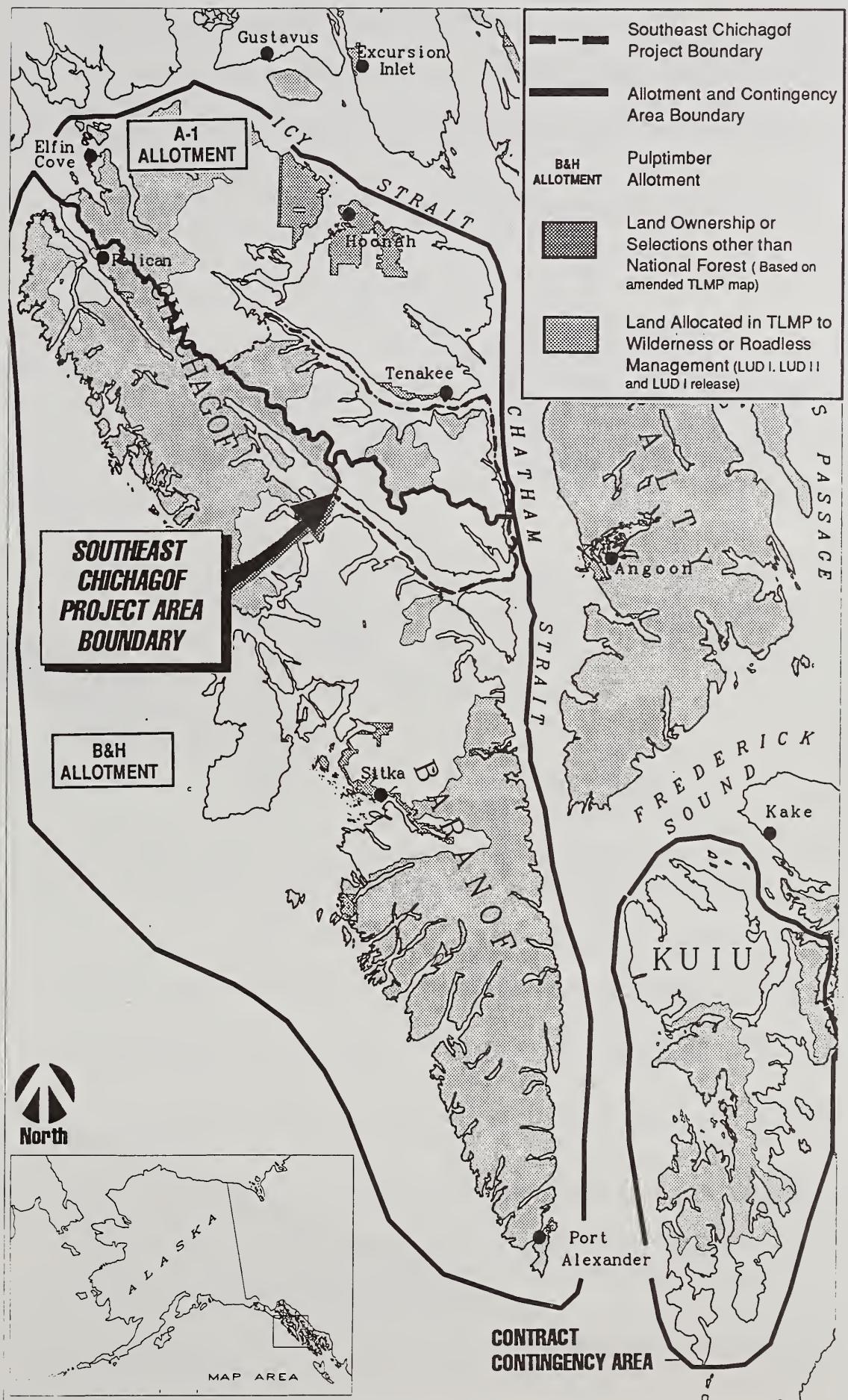
In 1956, the Forest Service and Alaska Lumber and Pulp, now the Alaska Pulp Corporation (APC), entered into a timber sale contract for a 50-year period between 1961 and 2011. Between 1971 and 1990, the Forest Service specifically planned and authorized logging, road construction, and related activities for successive 5-year periods. The Forest Service determined that these 5-year operating plans were major Federal actions significantly affecting the human environment, thus requiring preparation of an EIS under NEPA. EISs have been prepared for 5-year periods from 1976 to 1990.

During the 1980s, a series of court challenges interrupted implementation of the 1981 to 1986 and 1986 to 1990 APC long-term timber sale EISs. During this time, controversy over management of the Tongass National Forest also became a national issue.

On November 28, 1990, President Bush signed into law the TTRA which makes certain unilateral changes in the long-term timber sale contract with APC to make it more consistent with independent national forest timber sale programs. These changes will ensure that:

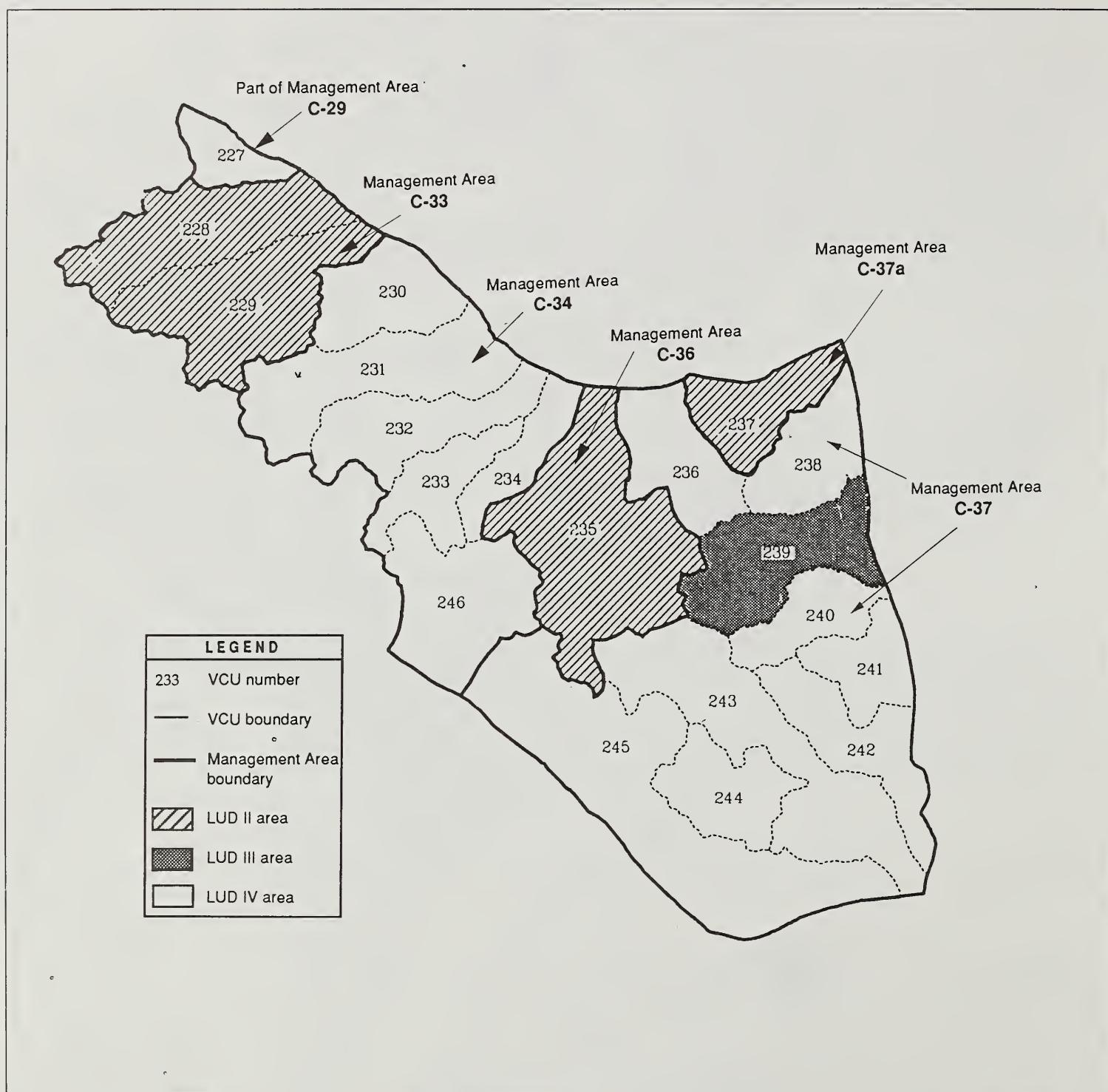
- Timber sale planning and environmental assessments regarding the contracts will be consistent with procedures for independent national forest timber sales;
- Harvesting a disproportionate amount of old-growth timber will be restricted;
- All timber offerings under each contract will be substantially harvested within 3 years, unless delayed by third party litigation;
- The Responsible Official will determine the location and size of timber sale units and the timing of timber harvest;

Figure S-1
Vicinity/Contract
Area Map



Summary

Figure S-2
Map of VCUs



- APC may reject timber offered under the contract;
- Utility logs offered under the contracts are counted against contract volume requirements;
- Purchaser road credits are provided in a manner consistent with independent national forest timber sale procedures;
- The price of timber offered under the contracts is adjusted to be comparable with that of independent national forest timber sales; and
- Timber offered under the contracts meets economic criteria consistent with that of independent National forest timber sales.

Furthermore, the TTRA requires that a buffer zone be established of "no less than 100 feet in width on each side of all Class I streams in the Tongass National Forest and on those Class II streams that flow directly into a Class I stream . . . Class I streams provide habitat to anadromous fish and Class II streams provide habitat for resident fish. Commercial timber harvesting is prohibited within these buffers. Finally, Best Management Practices as defined in the Forest Service Region 10 Soil and Water Conservation Handbook (Forest Service [D]) will be used to protect riparian habitat and streams.

Consistent with unilateral changes resulting from TTRA and changes negotiated with APC that became effective July 1, 1990, timber is made available for harvest from smaller timber-offering areas. The Southeast Chichagof Project is in line with these changes. These smaller offering areas are in contrast to preparing a single EIS for the entire contract area as was the case for the 5-year operating periods. Management requirements and the NEPA planning process will be consistent with that of the independent sale program.

Issues

As a result of public scoping meetings and consultation with municipal, State, and Federal agencies, the following issues were identified as requiring analysis in the Final EIS:

- **Issue No. 1:** How do timber harvest and road-building activities affect wildlife habitat?
- **Issue No. 2:** How would timber harvest and road-building activities affect fish habitat?
- **Issue No. 3:** What would be the socioeconomic effects of logging and associated development on Southeast Alaska residents?
- **Issue No. 4:** How will subsistence uses be affected by proposed timber harvest and road-building activities?
- **Issue No. 5:** Where would LTFs be located and what would be the environmental effects?
- **Issue No. 6:** What are the transportation system needs on Southeast Chichagof Island that will permit the harvest of timber, and what effect does development and use of the transportation system have on Forest resources?
- **Issue No. 7:** How would timber harvest and road construction activities affect recreation and scenic resources?

Development of Alternatives

At the heart of the development of the alternatives is a concept known as “New Perspectives.” New perspectives is an attempt to use new silvicultural strategies and re-evaluate older ones to emphasize ecological, physical, and social sciences to ensure that resource management sustains the health and productivity of the land. New perspectives looks at forest management on two levels: (1) the landscape level, which may be a VCU, watershed, or viewshed; and (2) the stand level, which deals with individual harvest units. Some tools employed at the landscape level may include maintaining large tracts of undisturbed old-growth by concentrating timber harvest in certain areas, minimizing the “edge-effect” by designing larger harvest units, and using beach fringe and stream buffers for corridors between blocks of old-growth wildlife habitat. Some tools employed at the stand level may include 1) reducing harsh edges by unit placement and feathering edges of cutting units, and 2) providing for stand diversity by leaving snags in harvest units (where safety regulations allow) or retaining small patches of uncut timber in harvest units (where feasible and practical).

All of these concepts were considered and used for the selection and design of harvest units and roads for the alternatives. Which tools will be used in a particular harvest unit will be determined at the time the detailed silvicultural prescription is written for each harvest unit.

Summary of Alternatives

Seven alternatives were developed based on public issues: five action alternatives and two no-action proposals against which the others are measured.

Table S-1 shows the volume of timber by thousands of board feet and acres to be harvested under each action alternative.



Sitka spruce

Table S-1
Volume of Timber (MMBF) To Be Harvested Under Each Alternative (Net + Utility)

Alternative	Volume (MBF)	Total Acres
Alternative A1	13,198	642
Alternative A2	0	0
Alternative B	137,420	4,191
Alternative C	111,000	3,292
Alternative D	132,040	3,818
Alternative E	125,560	3,668
Alternative F	104,490	3,304

**Alternative A1:
No-Action—Current
Direction**

This alternative represents the “No-Action” Alternative as required under the National Environmental Policy Act of 1969 (NEPA). This alternative permits the timber harvest and road construction activities previously approved within the boundaries of the Southeast Chichagof Project Area to continue. This includes the activities approved in the SEIS. This alternative assumes that additional timber volume would not be available elsewhere within the APC Long-term Timber Sale Contract Area to replace the volume expected from this Project Area. Selection of this alternative would require timber to be made available from another area to meet contract requirements.

**Alternative A2:
No-Action—No
Further Harvest**

This alternative represents one version of the No-Action Alternative as required by NEPA. To evaluate environmental effects and provide a true “no-action” baseline, this alternative assumes that additional timber volume would not be available from somewhere else within the APC Long-term Timber Sale Contract area. Selection of this alternative would require timber to be made available from another area to meet contract requirements. It serves as a benchmark by which effects of all action alternatives are measured. In this alternative, all existing timber harvest operations within the boundaries of the Project Area would be halted and no new timber harvest or road construction would be proposed.

Alternative B

This alternative focuses the proposed actions in six VCUs in the northwest half of the Project Area (VCU 230 to 234, and 246). This approach concentrates timber harvest and road construction away from the VCUs where most of the recent timber harvests have occurred (VCUs 236, 238, 239, and 241 to 245). Under this alternative, 4,191 acres would be scheduled for harvest in 117 harvest units for approximately 137.4 MMBF of sawlog and utility volume, indicating an average unit size of 36 acres. Five harvest areas would consist of harvest units or combinations of harvest units over 100 acres. To implement this level of harvest, 67.1 miles of new road would be constructed and 13.5 miles would be reconstructed. This is an average of 2.0 MMBF per mile of new road construction. One LTF would be required by this alternative.

Alternative C

This alternative focuses the proposed actions, as much as possible, in watersheds previously harvested and seeks to maintain natural ecosystem connectivity. This approach concentrates both past and proposed timber harvest and road construction activities in specific areas (VCUs 230, 231, 233, 234, 236, 239, and 241), resulting in large blocks of the Project Area maintained in a relatively natural condition. This also maintains ecosystem connectivity between the Lisianski River-Upper Hoonah Sound LUD II Management Area C35 and the Kadashan LUD II Management Area C36. This connectivity is maintained by not proposing activities in VCU 246. The alternative also maintains the essentially roadless character of VCUs 232 and 240.

With this alternative, 3,292 acres would be harvested in 83 harvest units for approximately 111.0 MMBF of sawlog and utility volume. This indicates an average unit size of 40 acres. Five harvest areas would consist of harvest units or combinations of harvest units over 100 acres. To implement this level of harvest, 25.5 miles of new road would be constructed and 23.2 miles would be reconstructed. This indicates an average of 4.4 MMBF per mile of new road construction. Four LTFs would be required by this alternative.

Alternative D

This alternative would distribute new timber harvest throughout the 10 VCUs being considered for entry at this time (230 through 234, 236, 239, 240, 241, and 246). Implementation of this alternative would schedule harvest of 3,818 acres in 83 harvest units for approximately 132.0 MMBF of sawlog and utility volume, indicating an average unit size of 46 acres. Four harvest

Summary

areas would consist of harvest units or combinations of harvest units in excess of 100 acres. To implement this level of harvest, 61.4 miles of new road would be constructed and 23.8 miles would be reconstructed. This indicates an average of 2.2 MMBF per mile of new road construction. Two LTFs would be required by this alternative.

Alternative E

This alternative focuses the proposed actions away from salmon streams, lakes, salt water, and riparian areas, and concentrate activities in higher elevations and upper valleys. This reduces the effects on the water, fisheries, recreation, and subsistence resources within the Project Area. This alternative disperses the proposed activities throughout nine VCUs (230 through 234, 236, 239, 240, and 246).

Implementation of this alternative would schedule harvest of 3,668 acres in 97 harvest units for approximately 125.6 MMBF of sawlog and utility volume, indicating an average unit size of 38 acres. Four harvest areas would consist of harvest units or combinations of harvest units in excess of 100 acres. To implement this level of harvest, 54.1 miles of new road would be constructed and 14.5 miles would be reconstructed. This indicates an average of 2.3 MMBF per mile of new road construction. Four LTFs would be required by this alternative.

Alternative F

This alternative would focus the proposed actions, as much as possible, in watersheds which have been previously harvested and away from the primary recreation and subsistence use areas around lakes and along salt water. This approach concentrates both past and proposed timber harvest and road construction activities in specific areas, while at the same time maintaining the roadless characteristics of specific VCUs in the Project Area. This alternative proposes activities in six VCUs within areas of previous timber harvest and road construction activities (VCUs 230, 233, 234, 236, 239, and 241). It extends the proposed road construction and timber harvest into VCU 246. The alternative maintains the essentially roadless character of VCUs, 231, 232, and 240.

Implementation of this alternative would schedule harvest of 3,304 acres in 92 harvest units for approximately 104.5 MMBF of sawlog and utility volume, indicating an average unit size of 36 acres. Three harvest areas would consist of harvest units or combinations of harvest units in excess of 100 acres. To implement this level of harvest, 36.8 miles of new road would be constructed and 21.8 miles would be reconstructed. This indicates an average of 2.8 MMBF/mile of road. Four LTFs would be required.

Comparison of Alternatives

The comparison of alternatives draws together the conclusions from the materials presented throughout the document and provides the results of the analysis in summary form. The following sections compare alternatives by 1) identified issue; 2) proposed activity; and 3) environmental consequence.

Issue 1: How do timber harvest and road building activities affect wildlife habitat?

Table S-2 displays the acres proposed for harvest in each of the six major wildlife habitats and the percent reduction in habitat from the current condition.

Table S-2
Wildlife Habitats Proposed for Harvest

Habitat	Alternative											
	A1/A2		B		C		D		E		F	
	Acres Cut	Percent Decline	Acres Cut	Percent Decline	Acres Cut	Percent Decline	Acres Cut	Percent Decline	Acres Cut	Percent Decline	Acres Cut	Percent Decline
Beach Fringe	0	0	0	0	0	0	0	0	0	0	0	0
Estuary Fringe	0	0	20	<1	19	<1	0	0	2	<1	6	<1
Old-growth Forest	0	0	4,191	3	3,292	2	3,818	3	3,668	3	3,304	2
Streamside Riparian	0	0	0	0	0	0	0	0	0	0	0	0
Forest	0	0	4,191	2	3,292	2	3,818	3	3,668	3	3,304	2
Alpine/Subalpine	0	0	9	<1	41	<1	6	<1	50	<1	50	<1

SOURCE: Anderson 1992.

Note: Since habitats overlap, Acres Cut column does not add up to reflect actual acres planned for harvest by alternative. For example, acres of old growth that occur in the beach fringe are counted in the old-growth habitat, beach fringe habitat, and forested habitat.

All action alternatives would result in a loss of old-growth and forest habitat. Impacts to other habitats would be greatly reduced through unit and road design prior to alternative formulation. The difference between the action alternatives in impacts on wildlife habitats is negligible. All alternatives would result in impacts consistent with implementation of the current TLMP.

Table S-3 shows the potential reduction in wildlife habitat capabilities for the 10 key Management Indicator Species (MIS) found in the Southeast Chichagof Project Area. By the year 2000, all action alternatives would decrease habitat capabilities less than 10 percent, and in most case, by 2 percent or less.

**Table S-3
Potential Reduction In Habitat Capability for MIS in 2000**

Habitat Capability	Population Pre-1960	Potential Reduction Alternative					
		A1/A2	B	C	D	E	F
Sitka Black-tailed Deer	8,706	15	17	17	17	17	16
Brown Bear	415	2	3	4	4	4	3
Red Squirrel	202,172	5	7	6	6	6	6
Otter	269	18	19	19	19	19	18
Marten	479	13	15	15	15	15	15
Brown Creeper	4,321	63	64	65	65	65	64
Red-breasted Sapsucker	27,516	8	11	10	11	10	10
Hairy Woodpecker	3,458	26	28	28	29	28	28
Vancouver Canada Goose	579	7	9	8	8	11	11
Bald Eagle	760	18	19	19	19	19	19

SOURCE: Anderson 1992.

Note: Habitat capability is measured by estimated population. Potential reduction indicates total cumulative reduction (in percent) between 1960 and 2000.

Issue 2: How would timber harvest and road building activities affect fish habitat?

The potential effects on fish habitat and related water quality are minimal for all alternatives. Implementation of proposed fish habitat enhancement projects for each alternative would increase the habitat for fish production. Increased stream sedimentation may result in some loss or impairment of resident and anadromous fish spawning and rearing habitat. An evaluation of the relative risk of each action alternative in terms of producing a mass-wasting event that could increase stream sediment shows Alternative C would have the lowest risk of accelerated mass wasting. Alternatives E and F have the higher risks for producing sediment from harvest units, and Alternatives B and D have the higher risk for producing sediment from roads (Table S-4).

**Table S-4
Relative Sediment Delivery Potential to Class I Streams (on High Hazard Soils)**

	Alternative				
	B	C	D	E	F
Harvest Units (acres)					
Direct Delivery Potential	308	335	313	382	394
Indirect Delivery Potential	402	301	410	460	474
Roads (miles)					
Direct Delivery Potential	18.4	12.5	15.3	15.0	11.7
Indirect Delivery Potential	6.4	5.1	7.0	5.8	6.1

SOURCE: Paushtian and Kelliher 1992.

Issue 3: What would be the socioeconomic effects of logging and associated development on Southeast Alaska residents?

On the basis of estimated net stumpage value, Alternative C would provide the largest return to the U.S Treasury followed by Alternatives F, D and E; all would be considered economic offerings. As currently designed, Alternative B would not be an economic offering. Table S-5 displays the employment (jobs) and personal income (salaries) associated with each alternative. The jobs and salaries listed include those both directly and indirectly dependent on the timber industry. The volume of timber harvested for each alternative results in a level of jobs and salaries associated with that volume.

Table S-5
Timber Industry Employment and Income

	Alternative					
	A1/A2	B	C	D	E	F
Employment (Jobs)	0	1,513	1,212	1,480	1,334	1,139
Personal Income (Million \$)	0	50.5	43.2	53.3	49.2	40.4

SOURCE: Morse 1992.

Native basket weavers.



Summary

Alternatives B through F would provide sufficient volume to enable the Forest Service to meet contractual obligations to the APC and assist in maintaining timber-related employment in the region. Under Alternative A2, the No-Action Alternative, none of the employment described above would be supported by timber harvest activity in the Southeast Chichagof Project Area. This would cause a significant impact to the economic base of communities dependent on timber harvest and processing by APC and have a ripple effect throughout the various economic sectors in Southeast Alaska that both directly and indirectly benefit from the employment with APC. Alternatives A1/A2 would produce a significant adverse effect on the timber industry and the economic and social environment dependent on that industry.

None of the alternatives is expected to have a significant impact on the commercial fishing, recreation, and tourism industry, or related employment.

Issue 4: How will subsistence uses be affected by proposed timber harvest and road building activities?

Based on potential direct and cumulative effects of timber harvest, there is a significant possibility of a significant restriction of subsistence use of deer in the Project Area under all alternatives, including the No-Action Alternatives. The proposed alternatives do not present a similar significant possibility of significantly restricting other subsistence uses.

Subsistence hearings were held in Angoon, Sitka, Tenakee Springs, Haines, and Skagway in accordance with ANILCA Section 810. These hearings gave subsistence users an opportunity to testify on their subsistence use within the Project Area and their perceptions of probable impacts to those uses from the proposed alternatives.

Issue 5: Where would log transfer facilities (LTFs) be located and what would be the environmental effects?

A total of five LTF locations are considered for use in the Project Area (Table S-6). Most of the proposed LTF sites are existing, previously used sites; two are currently active—Corner Bay and False Island.

Table S-6
Log Transfer Facilities Required

VCU	LTF Name	Alternative						System Impacted		
		A1/A2	B	C	D	E	F	Estuary	Marine	
230	Inbetween		•		•	•	•	•	•	
234	Crab Bay	•			•			•	•	
236	Corner Bay	•	•	•	•	•			•	
245	False Island	•	•			•	•		•	
245	Oly Creek			•	•	•	•	•	•	
Total LTFs		0	1	4	2	4	4			

SOURCE: Kosak and Allio 1992.

LTFs would have direct effects on the marine environment. Alternative F affects the most marine system (3.5 acres) followed by Alternative E (2.6 acres), Alternative C and D (1.7 acres) and Alternative B (0.9 acres). The loss of habitat from any of the alternatives is less than one percent and is considered to be a very minor effect. Since all species identified along the subtidal survey transects are common throughout Southeast Alaska, it is concluded that there would not be a significant impact to the marine environment from constructing (or continuing to use) LTFs at the proposed sites.

Issue 6: What are the transportation system needs on Southeast Chichagof Island which will permit the harvest of timber, and what effect does vehicular travel have on forest resources?

Table S-7 summarizes the mileage of the proposed transportation system for each of the alternatives including 1) miles of roads proposed for construction with this project that are to be permanent additions to the forest road system (specified roads), 2) miles reconstructed of existing forest system roads, and 3) miles of temporary roads that would be used with this project and then closed after use.

**Table S-7
Miles of Road (by Alternative)**

	Alternative				
	B	C	D	E	F
Specified Road Construction	67.1	25.5	61.4	54.1	36.8
Specified Road Reconstruction	13.5	23.2	23.8	14.5	21.8
Temporary Road Construction	29.1	15.6	18.0	21.0	20.1
Total	109.7	64.3	103.2	89.6	78.7

SOURCE: Kosak and Allio 1992.

Alternative B proposes the most road construction and reconstruction, followed by Alternatives D, E, F, and C, in that order. Alternatives B, D, and E develop more new specified roads, whereas Alternatives C and F concentrate harvest in previously roaded areas. Alternative D uses the road systems in previously harvested areas as do Alternatives C and F, but also would further develop the Project Area's transportation system.

The degree of impact of the transportation system proposed for each alternative to forest resources is directly proportional to the road constructed and the miles managed for continuing use. After timber harvest, roads closed and allowed to revegetate (temporary roads) have the least impact on forest resources. Road Management Objectives (RMOs) were developed to address the potential effects of the development and use of roads upon soils, water, wildlife, subsistence, and fish resources (see Volume II, Appendix F).

Summary

Issue 7: How would timber harvest and road construction activities affect recreation and scenic resources?

Recreation

Table S-8 displays the percent of the total Project Area that would remain in the various Recreation Opportunity Spectrum (ROS) classes following implementation of each alternative.

Table S-8

Percent of Project Area Remaining in Each ROS Class Following Alternative Implementation

ROS Class	Alternative					
	A1/A2	B	C	D	E	F
Primitive (PRIM)	16	12	16	10	15	15
Semiprimitive Nonmotorized (SPNM)	56	55	53	57	52	54
Semiprimitive Motorized (SPM)	8	6	7	7	7	7
Roaded Natural (RN)	1	1	1	1	1	1
Roaded Modified (RM)	19	26	23	25	25	23
Total	100	100	100	100	100	100

SOURCE: Nelson 1992.

Note: Although nine VCU's (227-229, 235, 237-238, 242-244) will not be affected by any alternative, their ROS acres are included in the above totals because they lie within the Project Area boundaries.

Alternatives A1/A2 would result in no change to the current ROS classifications. They provide a baseline for comparing the effects of the alternatives on the recreation resource.

Under Alternatives B, D, and E, there will be a significant increase in the development of the Project Area, especially in the shoreline and associated upland areas where most recreation takes place. The result would be a significant effect on those people currently seeking non-motorized recreational experiences and will have a positive impact on those desiring a more modified setting for their activities.

Alternatives C and F also would cause an increase in development; however, it would be less than for Alternatives B, D, and E. The result would limit activities to areas of existing development with some additional road construction and timber harvest.

Scenic Quality

Table S-9 shows the Visual Quality Levels (VQLs) resulting from the implementation of the Project's alternatives. A VQL for an alternative resulting in an increase in modification or maximum modification acreage indicates a negative effect on the visual resource.

Table S-9

**Visual Quality Levels Resulting from the Implementation of
the Southeast Chichagof Project Alternatives (in acres)**

Visual Quality Objectives	Alternatives					
	A1/A2 ¹	B	C	D	E	F
Retention	5,954	5,954	5,954	5,954	5,954	5,954
Partial Retention	86,945	86,261	85,954	85,903	86,121	86,178
Modification	71,099	71,569	71,892	72,022	71,923	71,866
Maximum Modification	32,870	33,084	33,068	32,989	32,870	32,870
Total	196,868	196,868	196,868	196,868	196,868	196,868

SOURCE: Monaco et al. 1991.

1 A1/A2 values represent Visual Quality Objectives

The increase of Maximum Modification and Modification acreage with the corresponding decrease in Partial Retention acreage represents a slight to moderate impact to the visual resource within the Project Area for all action alternatives. The increase in Maximum Modification and Modification acreages for all action alternatives is 1 percent or less. Alternative D displays the greatest increase in these acres, followed by Alternatives C, E, F, and B. However, each action alternative concentrates or disperses activities in different areas within the Project Area; thus, the impact to specific viewsheds would vary. The existing visual condition remains unchanged under Alternatives A1/A2. Following is a summary of visual impacts by alternative.

Alternative B—Visual impacts would range from moderately altered to heavily altered.

Alternative C—Visual impacts in the Project Area would range from moderately to extremely altered, with some areas not being affected at all.

Alternative D—Visual impacts would range from slightly altered to extremely altered within the Project Area, depending on the specific VCU.

Alternative E—Visual impact, depending on the specific VCU, would range from moderately to extremely altered.

Alternative F—Visual impact would range from slightly to extremely altered. Timber harvest and road building is concentrated in previously harvested VCUs mostly away from salt water and lakes.

Monitoring

Monitoring is designed to determine if the resource management objectives of the Southeast Chichagof Final EIS have been met. The results will be used to verify implementation and effectiveness of selected mitigation and protection measures in a timely manner. Three types of monitoring were recognized in the development of this monitoring plan: implementation, effectiveness, and validation monitoring.

- Implementation monitoring assesses whether the project was implemented as designed and whether or not it complies with the TLMP. Implementation monitoring of soil and water resources will largely consist of monitoring BMPs and Aquatic Habitat Management Unit (AHMU) prescriptions. BMPs as defined in the Region 10 Soil and Water Conservation Handbook are procedures designed to ensure protection of soil and water resources.
- Effectiveness monitoring seeks answers to questions about the effectiveness of design features or mitigation measures in protecting natural resources and their beneficial uses. Monitoring records will be kept by the responsible staff.
- Validation monitoring is conducted to determine if the assumptions or models used in planning are correct.

FEIS Conclusions

The Record of Decision (ROD) for the Final EIS for the Southeast Chichagof Project includes a final determination about the significant restriction on subsistence use that may result from implementation of the selected alternative. Below is a summary of the Final EIS evaluation and findings.

- 1) The potential foreseeable effects from the action alternatives in the Southeast Chichagof Project do not present a significant possibility of a significant restriction of subsistence uses of brown bear, furbearers, marine mammals, waterfowl, salmon, other finfish, shellfish, and other foods.
- 2) There is a significant possibility of a significant restriction of subsistence use of deer in the Project Area for Tenakee, Haines, Sitka, Skagway and Angoon residents regardless of which alternative is implemented.
- 3) Among the communities using the Project Area WAAs, there is sufficient habitat capability to meet subsistence needs through the year 2000 in the areas throughout the region where Tenakee, Angoon, Petersburg, Wrangell, and Meyers Chuck residents harvest 90 percent of their community's deer.
- 4) Areas used for subsistence by Sitka, Haines, Hoonah, Skagway, and Kake are not sufficient for all subsistence demands through the year 2000. The gap between supply and demand is primarily attributable to increased demand.

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